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In the Claims:

1. (Currently Amended) A thermal sensor to sense a temperature comprising:
an oscillator circuit to generate a first oscillating signal and a second oscillating signal; and
a counter circuit having,
a first counter circuit to perform a first count on said first oscillating signal, wherein said first counter circuit asserts an output signal when said first count reaches a predetermined value;
a second counter circuit to perform a second count on said second oscillating signal, wherein upon assertion of said output signal by said first counter circuit said second counter circuit halts said second count and asserts a value of said second count after halting said second count;
a first synchronizer circuit to synchronize an edge of said output signal of said first counter circuit with an edge of said second oscillating signal in order to assert a first control signal to halt said second count of said second oscillating signal by said second counter circuit;
a second synchronizer circuit to synchronize an edge of said first control signal with an edge of a first clock signal to assert a second control signal; and
a shift register to receive in parallel said value of said second count held by a counter register upon receipt of said second control signal, wherein said shift register serially shifts said value of said second count to an output node to assert said temperature detected by said thermal sensor.

~~one or more counter circuits to perform a first count on said first oscillating signal and a second count on said second oscillating signal, wherein said counter circuit halts said second count when said first count reaches a predetermined value and upon said first count reaching said predetermined value said counter circuit asserts a value of said second count to indicate a response of said thermal sensor.~~

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2. (Original) The thermal sensor of claim 1, wherein said oscillator circuit comprises,
a reference oscillator circuit to generate said first oscillating signal that oscillates at a frequency substantially independent of temperature; and
a temperature dependent oscillator circuit to generate said second oscillating signal that oscillates at a frequency dependent on said sensed temperature.
3. (Original) The thermal sensor of claim 2, wherein said reference oscillator circuit comprises,
a temperature independent voltage source; and
a voltage controlled oscillator (VCO), wherein said VCO generates said first oscillating signal based on a temperature independent voltage value asserted by said temperature independent voltage source.
4. (Original) The thermal sensor of claim 3, wherein said reference oscillator circuit further comprises, a voltage regulator to regulate an output value of the temperature independent voltage source.
5. (Original) The thermal sensor of claim 2, wherein said temperature dependent oscillator circuit comprises,
a temperature dependent voltage source; and
a voltage controlled oscillator (VCO), wherein said VCO generates said second oscillating signal based on a temperature dependent voltage value asserted by said temperature dependent voltage source.
6. (Original) The thermal sensor of claim 5, wherein said temperature dependent oscillator circuit further comprises, a voltage regulator to regulate an output value of the temperature dependent voltage source.
7. (Original) The thermal sensor of claim 3, wherein said temperature independent voltage source comprises, a bandgap reference circuit.

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8. (Original) The thermal sensor of claim 5, wherein said temperature dependent voltage source comprises, a bandgap reference circuit.
9. Cancelled.
10. (Currently Amended) The thermal sensor of claim [[9]] 1, wherein said first counter circuit comprises,
 - a counter register to hold said first count value of said first oscillating signal; and
 - an incrementer circuit to increment said first count value of said first oscillating signal held by said counter register by one for an incrementing event detected by said first counter circuit.
11. (Currently Amended) The thermal sensor of claim [[9]] 1, wherein said second counter circuit comprises,
 - a counter register to hold said second count value of said second oscillating signal; and
 - an incrementer circuit to increment said second count value of said second oscillating signal held by said counter register by one for each incrementing event detected by said second counter circuit.
12. Cancelled.
13. (Currently Amended) The thermal sensor of claim [[12]] 1, wherein said first synchronizer circuit further comprises,
 - a detector circuit to detect an edge of said first control signal to assert a reset signal to said counter register of said second counter circuit to reset said counter register of said second counter circuit.

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14. (Currently Amended) The thermal sensor of claim ~~[[12]]~~ 1, wherein said second synchronizer circuit further comprises,
- a clock divider circuit to reduce a frequency value of a second clock signal to generate said first clock signal; and
 - a detector circuit to detect an edge of said second control signal to enable said shift register to receive in parallel said second count value held by said counter register.
15. (Original) The thermal sensor of claim 2, wherein said reference oscillator generates said first oscillating signal with a first frequency value.
16. (Original) The thermal sensor of claim 2, wherein said temperature dependent oscillator generates said second oscillating signal with a second frequency value.
- 17-31 (Cancelled)